

grey to the base of the bill, and the latter has a longer thinner bill, and the exposed portion of the inner webs of the primaries beneath, near the larger coverts, is white.

Æ. phæopygia was first described from specimens obtained in the Galapagos Archipelago (see Trans. Zool. Soc. ix. p. 507, pl. lxxxviii. fig. 1). It has since been found in the Sandwich Islands, and has been again described by Mr. Ridgway as *Æ. sandwichensis*.

The British Museum has recently received a specimen from the Island of Kauai, which agrees accurately with the types of *Æ. phæopygia*.

The only species of *Æstrelata* hitherto known from the Kermadec Islands is *Æ. neglecta*, Schl. (Mus. Pays-Bas, vi. Procell. p. 10). This is a smaller bird than that now described, with much more white on the primaries beneath, besides differing in other characters.

XXI.—*On the Birds of Madagascar, and their Connection with Native Folk-lore, Proverbs, and Superstitions.* By the Rev. JAMES SIBREE, Jr., F.R.G.S.*—Part I.

THE Natural History of Madagascar is a study of great interest, not only to the zoologist, but also to the geologist and physical geographer; for although the animal life of the great African island is by no means so varied and so striking as that of some of the other large islands of the world, its peculiarities and its omissions are extremely significant; and the many peculiar and isolated animals it contains throw much light upon the physical condition of the island and its surrounding groups in earlier geological periods. This statement is true of the Mammalia, the Reptiles, and the Insects of Madagascar, and it is no less true of its Birds.

My object in the present and subsequent articles is two-

* Reprinted from the 'Antananarivo Annual,' 1889, with additions and corrections by the Author.

fold : first, I purpose to collect together all the available information about Malagasy birds, as regards their forms, their habits, their peculiarities, and their habitats. We know as yet comparatively very little about these beautiful and interesting living creatures, and what has been noted about them is chiefly in the French language, in the works M. Grandidier and M. Pollen. It will be of service, I think, to translate this information, and to put together the little we do know, and this may possibly induce other residents in the island to note the habits and peculiarities of the birds more minutely, and so eventually to widen our knowledge of the subject. I also purpose to bring together the many allusions to birds and their habits in Malagasy folk-lore and proverbs, as well as to point out the descriptive character of many of the native names for the birds of Madagascar, and the light these names often throw upon the birds' habits.

And secondly, I shall give, as far as practicable, a complete list of the birds of the island, as known and described up to the present time, arranged according to the most recent classification of competent ornithologists, together with both their English and their scientific names, and also those by which they are known in Hova or standard Malagasy, as well as in the various provincial dialects. This list will accompany the chapters describing each of the Orders of the Malagasy Birds.

The avifauna of Madagascar comprises, as at present ascertained, no less than 240 species, including sea-birds, among which there are naturally numerous wide-ranging forms common to many other countries; and among these latter there is, of course, little that is peculiar or of any special interest. It is among the land-birds proper, numbering 150 species—and omitting many shore- and water-birds, as well as several of powerful flight, and therefore of wide distribution—that we find some of those peculiar and isolated types of bird-life which, as Mr. A. R. Wallace remarks, “speak to us plainly of enormous antiquity, of long-continued isolation, and not less plainly of a lost . . . continental island [or archipelago of large islands], in which so many, and

various, and peculiarly organized creatures could have been gradually developed in a connected fauna, of which we have here but the fragmentary remains."

Many lists of Madagascar birds have been published by travellers and naturalists. Flacourt, in his '*Histoire de Madagascar*' (1661), enumerated in the 11th chapter of that work 56 birds under their local names; in the following century Brisson described 31 species, which had been sent to Réaumur by Poivre; and in 1840 Sganzin published in the Strasburg Natural History Society's '*Mémoires*' the Malagasy and French names of 84 birds. But it was in 1848 that there appeared, in a German review, the first detailed and systematic list of the birds of Madagascar, prepared by Dr. G. Hartlaub, comprising 94 species. This list was afterwards increased, in a more complete work by the same savant in 1861, to 153 species. Other lists were published—by Jules Verreaux in 1865; by M. Grandidier in 1867; and especially by Messrs. Schlegel and Pollen, who, in their fine work '*Recherches sur la Faune de Madagascar*,' in 1868, gave descriptions, more or less complete, of 143 species of Madagascar birds, together with figures of many of them; and in 1877 Dr. Hartlaub published a second and enlarged edition of his '*Ornithological Fauna of Madagascar*,' in which 214 species of birds found in the island are described. But by far the most elaborate and complete account of Malagasy birds (as well as of all the animal life of the country) is contained in the unequalled six volumes (four of plates and two of text) forming part of M. Grandidier's great work on Madagascar, still in process of publication. In these plates not only are the external forms and plumage of the birds shown in their varied and beautiful colours, but their osteology is fully given, and, in the case of the most curious birds, their anatomy is also carefully delineated.

It is to French naturalists that the discovery of the greater part of the Malagasy birds is due: to Poivre and Sonnerat, Bernier, Goudot and Rousseau, and Lantz, Humblot and Grandidier. But much has also been done by others, especially by Crossley, Edward Newton, Plant, Waters, and

Meller, among English naturalists, and by the Dutch travellers Pollen, Van Dam, and Van der Henst, who, together with some others, have made important collections.

Madagascar possesses a considerable number of genera and species of birds peculiar to itself : 35 genera and 129 species, distributed among 54 families. The result of a detailed study of the Malagasy avifauna is, says M. Grandidier, "that it has a very specialized character, and that, notwithstanding the small distance which separates Madagascar from the African continent, its affinities are much greater with the extreme East than with Africa; since, if we leave on one side all the birds of powerful flight, there are about twice as many more allied to Oriental than to African species, besides which the greater part of the characteristic genera of Africa are entirely wanting.

"It is now known that Madagascar comprises three 'Regions,' which are very distinct in their physical aspect, their geological formation, their vegetation, and their climate. These are : (1) the Region of the East and North-west, which is mountainous, damp, and covered with wood, or with herbaceous plants of greater or less size, according to the localities ; (2) the Central Elevated Region, which is very bare and rugged, almost entirely destitute of trees and shrubs [except small patches of forest, still left in a few places, and on the margins of the rivers, and in the inhabited portions], and where a bad coarse herbage scarcely covers the clayey soil of deep red ; and (3) the Region of the West and South, which is flat, dry, and sandy, with here and there small woods and thinly scattered trees. The centre of the island contains only few birds, almost all of powerful flight, principally Birds of Prey, Swifts, Swallows, and Water-birds ; in fact, these are regions which can give harbour to only a few animals.

"The birds which are most commonly seen in the central portions of Madagascar are Kestrels, Kites, Owls, Swifts, and Kingfishers, the two last-named along the numerous water-courses ; Swallows, Crows, Larks, Cardinal-birds, Herons, and Egrets near the rice-fields ; and Wild Ducks, Wild Geese, and Divers in the marshes and lakes. We

also meet, although more rarely, with Parrakeets, Peregrine Falcons, Bee-eaters, Sandpipers, Plovers, Warblers, Flycatchers, Quails, and Partridges. Bustard-Quails and various Waders are likewise met with on the banks of the lakes and along the rivers; also Rails, Snipes, and Gulls.

"The two coast regions are, on the contrary, well peopled with birds of all sorts, and while the greater part of these inhabit indifferently one or the other, it is no less true that there are a certain number which have their habitat almost exclusively in one region only, and which give it its special characteristics. There are also some which keep to a still more limited area, not going beyond a very restricted range. At the present time 50 species are known which are peculiar to the Eastern Region and to the almost identical district of the North-west, and 23 species peculiar to the Western Region. We consider as 'peculiar to a region' the species which, so far, have only been found in that region, or which, while very common to one, are only seen very exceptionally in the other. No doubt in the future numerous modifications will have to be made in these numbers, but meanwhile the special characters of the two avifaunas are not the less sharply defined.

"It is interesting to note that a certain number of species, which are of sedentary habits, undergo certain modifications under the influence of the physical conditions with which they are surrounded; in fact, as we have already said, the biological conditions are very different in the two regions of the East and North-west on one hand, and of the West and South on the other hand. These differences manifest themselves in the birds of the West in diminished size, and in a tendency to albinism and a general paler colouring.

"Even the eggs of certain of these birds have a lighter and less vivid colour, and are a little smaller, than those of their eastern relations"*.

* These paragraphs are translated from M. Grandidier's '*Histoire Naturelle des Oiseaux*;' and the preceding paragraphs as to the lists of Malagasy birds are also condensed from the same work.

I will add in this note what M. Grandidier says further as to the special

The lists of birds to be given, together with their native names, both Hova and provincial, are taken in the main from a small quarto pamphlet of eight pages published by the Rev. W. Deans Cowan some years ago. But I understand that the scientific information there brought together was partly due to that accomplished German naturalist, Dr. J. M. Hildebrandt, whose death in 1881 was such a loss to science and to our scientific knowledge of Madagascar, especially in its connection with Africa. This list, however, has been completely rearranged, according to the Natural Orders, and to it I have added other particulars from later information, especially from M. Grandidier's work. In the classification of the Madagascar avifauna, now, I believe, done for the first time in English, I have followed the arrangement laid down by Mr. R. Bowdler Sharpe, and adopted by him in his treatment of the Birds in 'Cassell's New Natural History,' vols. iii. and iv. In the nomenclature of genera and species I have chiefly followed M. Grandidier, as the first authority on these points as regards the ornithology of Madagascar.

In Mr. Cowan's paper the native names by which most of the birds of the island are known in different parts of the

character of the Madagascar avifauna. The 35 peculiar genera, most of which possess great interest from an ornithological point of view, are: (1) *Coracopsis* among the Parrots; (2) *Eutriorchis*, a Harrier-Eagle; (3) *Heliodilus*, an abnormal Barn-Owl; (4) *Coua*, Lark-heeled Cuckoos; (5) *Leptosomus* and (6) *Brachypteracias*, which connect the Rollers and the Bee-eaters; (7) *Neodrepanis*, a Sun-bird; (8) *Philepitta*, a Paradise-bird; (9) *Falculia*, an aberrant form of Starling; (10) *Hartlaubia*, between the Starlings and the Thrushes; (11) *Hypositta*, a Nuthatch; (12) *Eroessa*, (13) *Ellisia*, (14) *Dromæocercus*, and (15) *Mystacornis*, all species of Warblers; (16) *Thamnornis*, a Tailor-bird; (17) *Bernieria*, (18) *Oxylabes*, (19) *Crossleyia*, species of Babbling Thrushes; (20) *Tylas*, a Bulbul; (21) *Newtonia* and (22) *Pseudobias*, genera of Flycatchers; (23 to 29) *Artamia*, *Cyanolanius*, *Leptopterus*, *Lantzia*, *Oriola*, *Vanga*, and *Xenopirostris*, Passerine birds allied to E. Indian, Australian, and Polynesian species; (30) *Euryceros*, a very remarkable bird allied to the Orioles; (31) *Calicalicus*, a Butcher-bird; (32) *Funingus*, a Pigeon; (33) *Lophotibis*, a Crested Ibis; (34) *Mesites*, very curious birds among the Waders; and, lastly, (35) *Margaroperdix*, a Partridge, allied to the Quails.

country are carefully noted ; and as many of these are very significant and descriptive, pointing out some habit or peculiarity, I shall give translations of such names, for they frequently illustrate the native power of seizing the salient features of the living creatures which come under their notice. In some cases, also, a native proverb points out some marked peculiarity of a bird ; while other birds are closely connected with the native superstitions and beliefs.

It will be seen in the following pages that I am indebted to other observers and to eminent naturalists for much of the information here brought together, and that I have freely used facts derived from every available source ; in short, that these papers are only to a limited extent the result of original observation. But I think that this will in no way decrease, but rather add to, whatever interest and value they may be found to possess. For several years I have resided in the high interior province of Imèrina, either in the capital, Antanànarivo, or its neighbourhood ; and, as already shown (on the preceding page) by quotations from M. Grandidier, that bare highland region is very devoid of woods, and the avifauna is therefore very scanty. I have, however, made several long journeys into other parts of the island, and have frequently stayed near the edge of the upper forest, where birds are, of course, more abundant ; and I have tried to utilize all such opportunities of gaining acquaintance with the animal life of the country. Only those who, like M. Grandidier and M. Pollen, have travelled extensively in the lower forest-region and the wooded coast-plains, can speak from personal knowledge of the more varied and abundant avifauna which is there to be met with. I am glad therefore to be able to translate and quote from their works ; and I am under great obligations to my friend M. Grandidier for kindly giving me much information on numerous points as to which I was in uncertainty.

Each of the Natural Orders in which the Madagascar birds are arranged will be now noticed separately, and any points of interest with regard to individual species, genera, or families will be pointed out.

I.—THE RAPACIOUS BIRDS.

The Rapacious Birds (Table I. pp. 202–3) of Madagascar, as will be seen by the list, comprise 22 species, the majority being various kinds of Hawks, Kites, and Buzzards, but including also several Owls and two Eagles, but no Vultures.

The most common bird of this Order is the *Papàngo*, or Egyptian Kite (*Milvus ægyptius*), a large bird of almost world-wide distribution and found all over the island. It may be seen every day flying gracefully along in search of the lizards and snakes, and the mice, rats and young birds, which form its chief food, and continually swooping down upon its prey. Towards the end of the rainless season, when the long dry grass is burned on the bare hills and downs of the interior, the *Papàngo* may be noticed sweeping backwards and forwards close to the edge of the blazing grass, so as to pick up the smaller creatures escaping the advancing flames, or those which have been overtaken by them and killed. I have occasionally observed several hundreds of these Hawks in the neighbourhood of Ambòhimànga, hovering in the air or describing great circles at an immense height, and have wondered how such large numbers could obtain food. The Rev. R. Baron says, “Large numbers of these birds occupy the same roosting-places at night. At Ambòhidratrimo they take their position in the trees on the west side of the town, while the Crows roost in those on the east side.”

This bird is the dread and detestation of the country-dwelling Malagasy, for it swoops down upon their chickens and pigeons, and is only scared away by their loud cries and execrations. From these habits comes one of its provincial names, *Tsimilàho*, i. e., “The-one-who-does-not-ask,” but takes without saying “By your leave.” It is constantly seen in company with the White-necked Crows, and, like them, feeds near the villages, especially where oxen are killed. Although it does often carry off the people’s fowls, it is very useful in destroying vermin. The name *Papàngo*, says M. Grandidier, comes from the words, *papy*, to watch for, and *àngona*, a meeting, because these birds hover continually above the

Tabular List of Madagascar Birds according to the Natural Orders.

(TABLE I.)

English Name.	Scientific Name.	HOVA or General Name.	Provincial Malagasy Names.
Rayed Gymnogene	<i>Polyboroides MADAGASCARIENSIS</i> *.	Fihika (Bs, T, Ba, N.S., N.B., Tm.)†.	Voronamby (Bs, T).
Long-legged Harrier	<i>Circus MACROSCELUS</i>.	.....	Fandrañalambo (Ba), Fandrañ-
Henst's Goshawk	<i>Astur HENSTI</i>.	.....	Fandrañsanga (Bs).
Frances's Goshawk	<i>Astur FRANCESI</i>.	.....	Fandraña (Bs, Ba, T), Van-
Morell's Goshawk	<i>Astur MORELLI</i>.	.....	Firasy (N.B.).
Madagascar Sparrow Hawk ..	<i>Accipiter MADAGASCARIENSIS</i>.	.....	Firasy (N.B.).
Short-winged Buzzard	<i>Buteo BRACHYPTERUS</i> .	Fanindry, Berivina.	Vandraolibo (N.S.), Firasy
Noisy Sea Eagle	<i>Haliaeetus VOCIFEROIDES</i>.	.....	(N.B.).
Madagascar Serpent Eagle....	<i>Eutriorchis ASTUR</i>.	.....	Hindry (Bs, T), Pômpa (Ba),
Egyptian Kite	<i>Milvus aegyptius</i> .	Papango (Bs, Ba, T, N.B., N.S., Tm.).	Tinoro, Bobak (N.S.), Indri-
			na (N.B.), Bévoro (Tm).
			Ankoay, Hanka (N.S).
			Tsimalaho (Bs, Ba), Tsimala-
			laohé.

Order I. ACCIPITRES. (BIRDS OF PREY.)

Suborder FALCONES. (FALCONS.)

Andersson's Pern	<i>Machærhamphus anderssoni</i>.	.....	.....
Smaller Peregrine Falcon	<i>Falco minor</i> .	Vòromahèry (<i>Bs.</i> , <i>N.B.</i> , <i>N.S.</i>).	Fandràsa (<i>Bs.</i>), Fandràsalàmbo (<i>T.</i>), Fantio (<i>Ba.</i>), Tsipàra (<i>Tm.</i>).
Stripe-bellied Falcon	<i>Falco zoniventris</i>.	.....	.....
Grey Falcon or Hobby	<i>Falco concolor</i> .	Làvèlatra.	.....
Madagascar Cuckoo Falcon ..	<i>Baza</i> MADAGASCARIENSIS.	Hindribémànana, Bémànana.	Pòmpa (<i>Ba.</i> , <i>T.</i>), Hindry (<i>T.</i>), Endry (<i>N.B.</i>), Tinòro (<i>N.S.</i>).
Newton's Kestrel.....	<i>Tinnunculus</i> NEWTONI.	Hitsikítsika.	So also, with slight variations, in all the dialects; <i>e.g.</i> , Hìtika, Ikitiky, Kètsikètsy, &c., Andradia (<i>S.E. Co.</i>).
Suborder <i>STRIGES</i> . (OWLS.)			
Cape Long-eared Owl.....	<i>Asio capensis</i>.	.....	Hànka (<i>Bs.</i> , <i>Ba.</i> , <i>T.</i>), Hàngikànga (<i>Tm.</i>), Vòrombòzaka (<i>S.</i>).
Madagascar Long-eared Owl..	<i>Asio</i> MADAGASCARIENSIS.	.....	Vòronònkona (<i>T.</i>).
Madagascar Hawk Owl	<i>Ninox superciliaris</i> .	Tòrotòroka (<i>Ba.</i> , <i>N.S.</i>), Tarà-raka.	Tòvetòveko, Tòitòiko (<i>Antk.</i>).
Madagascar Scops Owl	<i>Scops</i> RUTILUS.	Tòrotòroka (<i>T.</i> , <i>N.B.</i> , <i>N.S.</i>).	Atóroko (<i>S.</i>), Tòtoròko (?).
Common Barn Owl.....	<i>Strix flammea</i> .	Vòrondòlo.	So in all other dialects.
Soumagne's Owl	HELIODILUS SOUMAGNEI.	.....	Vòrondòlo.

* In these lists the genera and species or varieties of birds peculiar to Madagascar are shown by small capitals.

† The contractions of provincial names are as follows :—*Bs.*, Bètsilèò ; *Ba.*, Bàra ; *T.*, Tanàla ; *Tm.*, Taimòro ; *Tnd.*, Tandroy ; *Btm.*, Bètsimisàraka ; *N.B.*, North Bètsimisàraka ; *N.S.*, North Sàkalàva ; *Antk.*, Antankàrana.

native villages. The Rev. L. Dahle, however, thinks the word to be one belonging to the original African element in the Malagasy language, and allied to the Swahili *kipànga*, a bird of prey, and to a Zulu root, *panga*, to seize, ravage, &c. Another of its provincial names is *Parìakoròvana*, or "Disperser-of-Thrushes." Mr. Cory tells me, "I have known a Papàngo take meat out of a man's hand as he carried it from market, and I have often heard natives say they have seen the same. There is a habit the tame Pigeons here have acquired, and that is, of flying directly a Papàngo comes in sight, and continuing to do so until it has passed, proving that they know this Kite never stoops, but always pounces; yet I have never known them touch even a sitting pigeon."

Several Malagasy proverbs refer to the Papàngo; *e. g.*, to its rapacity and boldness, in the following: "Acting like a Kite's claws; not taking gently, but greedily." So again: "A Kite swooping over the sea, swooping also over people's land;" and again: "The wild cat is weary, for the fowl (it was seeking) is carried off by the Kite." Occasionally it seems that it catches more than it can eat, for another proverb says: "The Kite that caught a tortoise: it certainly got it, but did not get much after all." And its occasional food of locusts is mentioned in this: "Not (like) a little swarm of locusts and afraid of a Kite." One of the native *Hainteny*, or oratorical flourishes, says: "The Kite is an arrant thief, the Crow is blear-eyed, and the Brown Stork (*Tùkatra*) is long-necked: all are rogues and abuse one another."

Another very widely-spread rapacious bird is the little lively and noisy *Hitsikitsika*, or Kestrel (*Tinnunculus newtoni*), which is found in or about every village (at least in Imèrina), often perched upon the gable "horns" of the houses, or even on the extreme point of the lightning-conductors. It is by no means shy, and one can sometimes approach it quite closely, and see its bright fearless eyes, before it darts away. It is fond of the same resting-place, and, after a noisy chatter with its mate, takes a sweeping flight for a few hundred yards and returns to its former position. There are two varieties of this Kestrel; one has a light-coloured, the other a brown-

tinted breast. Its name, which, with slight variations, is practically the same all over the island (see List, p. 202), is probably an imitation of its peculiar querulous cry. A Malagasy verb, *mihitikitika*, "to strut, to swagger," is probably taken from the name of the bird; or is the reverse the case? Several native proverbs refer to the Kestrel's quick restless flight and its frequent habit of hovering aloft, poised almost motionless, or with an occasional quivering of the wings, which, in Malagasy idiom, is called "dancing"* (*mandihy*): e.g., "The Kestrel is at home in dancing, and the Little Grebe (*Vivy*) is at home in the water;" "The Kestrel does not forsake the precipice where it nests;" and "The Kestrel is not hovering (lit. "dancing") without reason, for there below is something (in the way of prey)." And again: "Dance, O Kestrel, that we may learn also (to do it) when it is harvest time." And its habit of sometimes driving away the robber Papàngo, but itself appropriating the Kite's intended prey, is referred to in a proverb applied to one who was expected to be a benefactor, but turns out an oppressor, thus: "He was thought to be a Kestrel to be honoured (or, to protect the birds), but becomes a Falcon (*Vòromahèry*) carrying off the chickens." Among some tribes, or, perhaps, only certain families, the Kestrel is a sacred or tabooed bird. M. Pollen says: "Being one day hunting in the neighbourhood of Anòrontsànga, I killed one of these Kestrels, when a farmer came to meet us, saying that I had committed sacrilege in killing, as he said, a sacred bird. He begged me to leave it to him, so that he might bury it in a sacred place. I hesitated, except to grant him the beak of the Kestrel, which had been broken by the shot. The good man, accompanied by a slave carrying a load of sugar-canes, and happy to be able to take away any part of the sacred bird, tried to express his gratitude by offering me half of the load. I have, however, observed that this bird is not sacred among the Antankàrana, the Bètsimisaraka, and other tribes." In confirmation of this, the Rev. J. A. Houlder also says, "It seems

* Malagasy dancing consists chiefly in graceful posturing of the hands and arms, with but little movement of the feet.

pretty certain that the Kestrel was formerly worshipped, and a small piece of the legs or wings or body was given by the diviners to be used as a charm, or presented as a sort of sacrifice, when praying to the idols. Many of the ignorant Malagasy still venerate the bird and make supplication to it."

Another Hawk worth noticing, although much less common than the two previously mentioned ones, is the *Vòromahèry*, or Lesser Peregrine Falcon (*Falco minor*), a small but very courageous bird, which has long attracted the attention of the Malagasy for its swiftness and fearlessness. Mr. W. D. Cowan observes, "There is a marked difference in the way the Papàngo hunts, circling lazily over a village, from that of the Vòromahèry, which out of the invisible height drops like a thunderbolt upon his prey. The Papàngo swoops with wings expanded; the Vòromahèry drops with closed wings." Its native name, which means "Powerful bird," is also that of the tribe of Hova Malagasy who inhabit the capital and its near neighbourhood. Probably from that circumstance this Falcon has been adopted as a kind of crest or emblem by the central Government, and used to be engraved on the official seals. Large metal figures of a bird, popularly supposed to be the Vòromahèry, are fixed on the ridge of the roofs of the two largest royal palaces, and also over the palace gateway. These figures, however, have a crest of seven feathers, similar to that which surmounts the crown of the Malagasy queens. One of the proverbs referring to this Falcon has already been quoted in speaking of the Kestrel (see above p. 205). Another says: "Falcon's eggs on the face of the cliff: that which screams out is its young."

Many of the Malagasy Hawks and Falcons are very handsome birds, beautifully marked with horizontal bars of alternate light and dark colour on the breast, belly, and tail. But perhaps the most handsome of them all is the Rayed Gymnogene (*Polyboroides madagascariensis*), the male of which is of a pearly grey colour barred with black, while on the tail- and quill-feathers are broad bands of pure white and intensely

glossy black. The female is differently tinted, and the young birds are brown in colour. They build among the long grass in the deepest marsh they can find. This bird stands high, having very long legs, and, with its crest of feathers on the crown and neck, has much the appearance of a Secretary-bird, although really very different in internal structure. Its cry is a sort of scream, whence its name of *Fihàaka*, from *hàaka*, "a scream of defiance." Another name is *Fisiopàty*, lit. "Whistler-for-the-dead." It is also provincially called *Vòronaomby*, "Ox-bird."

The Madagascar Cuckoo Falcon (*Baza madagascariensis*) takes one of its names, that of *Endry*, "Clownish," from its stupid and awkward air, a name shared also by the Short-winged Buzzard (*Buteo brachypterus*); and this latter is also termed *Bèvoróty*, "Big-bellied," and *Bo-bàky*, "Swelled," from its heavy appearance. Of these birds, however, M. Pollen says, "Their flight is majestic; they hover almost continually, mounting to a great height in the air, uttering their piercing cries and describing circles. The Fork-tailed Drongo has a special antipathy to this Buzzard, always chasing it when it perceives it." This bird's nests are built on lofty trees, like those of the Crows, but larger; and it lays three or four eggs. It is easy to find, as it utters piercing cries when approached. *Bèririnana*, i. e., "Many-in-winter," is another of its names. Their voracious tearing up of their prey is noticed in the names given to several of the Malagasy Hawks, those in which the words *Firàsa* or *Fandraàsa*, the "Tearer" or "Divider," or, more freely, the "Butcher," appear, either in these simple forms or combined with other words (from the root *ràsa*, a word meaning the cutting up and dividing of oxen or other animals). This is the name of the Madagascar Sparrow Hawk (*Accipiter madagascariensis*), which is also called *Vàndraokibo*, "Quail-eater." By both of these names are also known the nearly allied birds, Morell's Sparrow Hawk and Frances's Harrier Hawk. This latter is also termed *Pariafòdy*, "Disperser-of-Cardinal-birds," on which bird it largely feeds, and *Ampamàkalóhanikibo*,

"Quail's-head-breaker." It is almost always seen in couples, the male and female birds together. *Fandràsalàmbo*, "Wild-boar-butcher," is the name given to another species of Harrier Hawk; and this (as well as *Fandràsa*) is also a provincial name of the Lesser Peregrine, or *Vòromahèry*, above mentioned. A Goshawk is called *Fandràsangàra*, an obscure name as regards the latter portion of the word, but clear enough as to its first part. (Perhaps this name refers to its tinting, from a root *ngàrà*, "of mixed colour.")

Others, again, of these Hawks are known by the name of *Hìndry* or *Fanìndry*, words either from a root *tsìndry*, "to press down," or from another root *hìndry*, "to pounce on," and probably referring to their pursuit of, and swooping down upon, their prey. These are names of the Short-winged Buzzard, and also of the Madagascar Cuckoo Falcon (both already mentioned). Mr. Cory observes that "*Hìndribémànana* is a common name for these birds along the eastern side of the forest. The '*Hìndry*' is often dropped, and *Bèmànana* ('Having-much') is alone used. They do not 'pursue' their prey, to speak with strict accuracy, but 'pounce' on it when on the ground."

The long pinions and quill-feathers of the Grey Hobby (*Falco concolor*), projecting even beyond the tail, are noticed in its name of *Làvèlatra*, i. e., "Long-wings." These birds only appear in Madagascar in the rainy season, coming from Africa in pursuit of the clouds of locusts which frequently cross the Mozambique Channel, and on which they principally feed. Their flight is rapid, like that of a Swallow, and they may be seen pursuing the locusts as the Swallows do gnats. A *Sàkalàva* name of this bird is *Tsiasàra*, i. e., "Not-found-in-the-dry-season;" and another provincial name is *Fandràn-tsambàry*, i. e., "Pruner-(or cleaner)-of-rice," because it feeds on the locusts, the plague of the rice-fields.

It will be seen that this group of rapacious birds presents good examples of the Malagasy power of giving striking and appropriate descriptive names to the living creatures of their country. Some of their names, however, as *Pòmpa*, *Rehila*, *Tinòro*, &c., are still obscure; for explanation of these we

must wait fuller knowledge of the provincial dialects of the native language*.

The Eagles are represented in Madagascar by two if not three species, of which the most common is the *Ankoàÿ* or *Hànka*, the Fishing or Sea Eagle (*Haliaëtus vociferoides*), which is found all along the western coast and on the numerous small islands off the north-west of the mainland. Captain W. F. W. Owen, R.N., gives a graphic account of the habits of this large and handsome bird : its keeping watch on a tree or cliff at the edge of the water, its lightning-like swoop into the sea after its finny prey, and its power of instantaneously arresting its downward flight. M. Grandidier says that a single pair of these Eagles is found in many of the innumerable small bays of the north-western coast, of which they take exclusive possession, allowing no other Eagle to encroach on their own preserves. He also says that as soon as the Eaglets become old enough to provide for themselves, the parent birds persistently drive them away from the nest and from the neighbourhood. They usually lay only one egg, rarely two. The nest, which is very large, is built on a pandanus or other tree on the shore. They are more slender in form, and the wings are smaller, than in the other species of Fish Eagles. They feed principally on fish, catching adroitly those which appear at the surface. Compressing their wings, they dart headlong on their prey ; and if this is too large to be carried in their talons, they then beat its head with strokes of their beak and tow it along, their wings serving as sails. The northern Sàkalàva name of Ankoàÿ applied to this Eagle appears to be an imitative one derived from its cry of *hoai*, *hoai*. This Sea Eagle is peculiar to the island, although nearly allied to an African species ; it is dark brown in colour, with powerful talons.

Of the other Madagascar Eagles (if there really are two others), much less is at present known. One of them, the Bare-legged or Harrier Eagle, has been formed into a distinct genus (*Eutriorchis*) by Mr. Sharpe. It appears to be

* Possibly *Tindro* is from the root *tòro* (with the infix *in*) and means the "Crusher," the "Bruiser," the "Breaker."

very rare, only one example, shot by Mr. Crossley in the Mangòro valley, being known. It is remarkable for its extreme shortness of wings and immoderate length of tail. But M. Grandidier doubts the existence (in Madagascar) of the other alleged species, the Crested or Hawk Eagle (*Spiætaetus occipitalis*), which has apparently been seen only once, by Messrs. Pollen and Van Dam, on the north-west coast opposite Nòsifàly, but was not captured.

Six, if not seven, species of Owl are known in Madagascar, most of them being not very common; two, however, the Scops Owl and the Barn Owl, are tolerably plentiful. The last mentioned appears to be exactly identical with the almost world-wide and well-known bird of that name. As among most other peoples, the Owl is regarded by the Malagasy as a bird of ill omen; they call it *Vòrondòlo*, i. e., "Spirit-bird," thinking it an embodiment of the spirits of the wicked; and when its startling screeching cry is heard in the night, they believe it to be a presage of misfortune to some one. There are numerous fables and stories about the Owl, illustrating the popular dread of and dislike to the bird. The Long-eared Owl of Madagascar (*Asio madagascariensis*) is termed *Vórombózaka*, i. e., "Bird-of-the-dry-grass," from its hiding among the reeds and the long grass which grows so plentifully on the Imèrina downs. Another provincial name for the first of these birds is *Vòronònkona* (or *Vòronònkina*), possibly from a word (*onkénina*) meaning short and stout. Other names of the Madagascar Owls, as *Tórotóroka* and *Hànta*, appear to be descriptive of their cry. The Hawk Owl (*Ninox superciliaris*) is known by the name of *Taràraka*; it always sits on the ground, and is common in the marshes and among long grass. M. Grandidier says that the provincial name of the Scops Owl, *Atóroko*, means "I am going to say"*, and that some Malagasy consider it as a menace when they hear it. Like the Owls in all other parts of the world, the Madagascar species are really public benefactors, by keeping down the number of rats and

* More correctly, *tòro* means "to point out, to direct;" or it might be from the obsolete form *tòro*, "crushed, bruised" (see p. 209).

mice and other vermin; but their nocturnal habits, their large staring eyes, the "uncanny" ear-like feathers of some, and especially their unearthly screech, have all combined to make them objects of dread. These and other popular notions, as well as observation as to the habits of the bird, are shown in the following proverbs, which probably mostly refer to the Barn Owl, but some also to the Scops, thus: "Don't act like an Owl: sulky in another's house;" "A wild cat laughing at an Owl: the one that creeps ridicules the one that flies"*; "Bent down in grief and dejection, although nothing has befallen you, like an Owl;" "It is the Tufted Stork (*Takatra*) that finishes a nest†, but it is the Owl that swells out and gives itself airs;" "An Owl appearing in the daytime, so all who see it swoop down on it."

Our notes on this Order may conclude with the following Malagasy fable referring to the Owl and other birds:—

"Once upon a time, they say, all the birds of the air assembled and agreed to choose one of their number to be king and leader; but the Owl, it is said, did not come, for his mate chanced to be sitting just then. So all the birds agreed together that any one who should see the Owl, and did not kill him, should be expelled the community and be counted as an enemy. And that is why the Owl does not go about in the daytime, but only at night; for if any birds see him, they all set upon him to beat him.

"And the Falcon also, it is said, wanted to be king and appointed himself, but the rest did not agree to it; so he left all his companions and became their enemy. Therefore, if the Falcon sees any other bird, he carries it off forthwith, because it is his enemy; and so the birds, it is said, chose one of themselves as their king. And their choice fell on the Fork-tailed Shrike, because of his good behaviour, and his long crest, and also on account of his many-toned voice.

"And that, they say, is why this Shrike is considered by the people to be the king of the birds."

* Wild cats (*Kary*) are as much objects of dislike as Owls, and are frequently classed with them by the Malagasy.

† The *Takatra* (*Scopus umbretta*, Gm.) makes a very large and conspicuous nest.

II.—THE WOODPECKER-LIKE BIRDS.

The second Order of Birds, according to Mr. R. Bowdler Sharpe's arrangement, comprises those termed Picarie (Table II. pp. 214–216), which in some points resemble the Woodpeckers (*Picus*) in their structure. This division is again divided into two suborders of (*a*) Climbers and (*b*) Wide-gapers. In the first of these, of the seven families of which it is composed, only two have representatives in Madagascar, viz., the Parrots and the Cuckoos. Of the remaining families, the Honey-guides, Plantain-eaters, Woodpeckers, Toucans, and Barbets, none are found in the island.

I. The CLIMBERS.—Two species of Parrot and one Parakeet are among the denizens of the Malagasy woods and plantations in almost every part of the country.

1. These Parrots, the one dark grey in colour, and the other slaty black, are both of sober plumage, with none of those brilliant tints which mark many species of Parrot in other parts of the tropics. But they are both intelligent birds, and, like their congeners, can be easily taught to speak a few words and to whistle a tune; they are therefore frequently kept as pets by the Malagasy. The sooty species (*Coracopsis obscura*) is found also (introduced) in Réunion, but the black one (*C. nigra*) is peculiar to Madagascar. Mr. Cowan speaks of the latter species as having been seen by him in large flocks at Ihòsy and Isàlo, in the Bàra country (south-central region).

The Sooty Parrot, except in the breeding-season, is found in small companies of from six to eight individuals. Its food is rice, seeds, roots, and wild fruit. A Malagasy proverb, whose "moral" is to reprove a too easy-going, changeable disposition, speaks of "a male Parrot seeking fruit in the forest: he finds a luscious morsel here, but in an instant he is off to get another there." This bird flies high, but if one of them is shot or wounded, its companions will come with sharp cries of defiance at the hunter, as if to save their comrade. This Parrot, M. Grandidier says, is *fady*, or sacred, to one of the royal families of the Vèzo Sàkalàva, and he gives the following story as accounting for the origin of the veneration in which they hold it:—

“Làhimerisa, king of Fiherènanana, told me that one of his ancestors was one day walking alone in one of his manioc plantations at some distance from the royal village, when he was surprised by a band of robbers on a marauding expedition from the Bàra country. They did not know the king, who had nothing in his appearance or dress to denote his rank. But seeing his thick chain of gold gleaming under the knobs of hair covered with grease and white clay, they took him unawares, speared him, and possessing themselves of the coveted prize, threw the body into a hastily dug grave, and decamped. How long he remained there no one knows; but he was not dead, only seriously wounded; and on recovering consciousness, and seeing nothing but darkness around him, and feeling the earth pressing heavily on his chest, he believed himself in the other world. He was in profound distress; when, suddenly, he seemed to hear shrill piercing cries, as if a flock of Parrots had passed over his head. He listened attentively; the cries which met his ears were approaching nearer. Doubtless a babbling and restless crowd of them was perched on a neighbouring tree. ‘But there are no Parrots in the other world,’ thought our hero; ‘I am not dead!’ He took courage, and freeing himself by a tremendous effort from the layer of earth which covered his body, he perceived the bright shining of the sun, in whose rays the Parrots were sporting in the trees around him. Hope revived within him, and he made his way, not without difficulty, to his village, where, after the needful care and nursing, he eventually recovered strength. In thankfulness to the birds whose cries had roused him from his torpor and given him courage to free himself from his tomb, he solemnly vowed for himself and his descendants, to the latest generation, that they would never kill Parrots.”

The Sooty Parrot is the larger of the two species, the Black one being a third less in size; but the latter is found in much greater abundance, and in companies of from six to twelve individuals. Both species are more terrestrial and less arboreal in their habits than most Parrots, nor do they make much use of their claws to convey food to the mouth. These birds have many provincial names besides the common one of

Tabular List of Madagascan Birds.

(TABLE II.)

English Name.	Scientific Name.	Hoza or General Name.	Provincial Malagasy Names.
Order II. PICARIE. (WOODPECKER-LIKE BIRDS.)			
Suborder ZYGODACTYLÆ. (CLIMBING BIRDS.)			
Family PSITTACI. (PARROTS.)			
Sooty Parrot	CORACOPSIS OBSCURA.	Boloky (Bs.).	Sihôtsa, Vaza (Ba.), Kavoky, Ampoma (T.), Koérabé, Vaza (N.S.), Boézabé (N.B.).
Black Parrot	CORACOPSIS NIGRA.	Boloky (Bs.).	Sihôtsa, Vaza (Ba.), Kavoky, Ampoma (T.), Vaza, Kakio (N.S.), Koérakely (S.), Boézantsilikôtra, Boéza (Btm.).
Grey-headed Parakeet (or Love-bird).	Agapornis MADAGASCARIENSIS.	Sariväzo (Bs., N.S.).	Kitêoka (Ba., T.), Saravänga (Ba., T.), Karoko (N.S., N.B.), Saravôsa (S.), Masésy.
Family CUCULIDÆ. (CUCKOOS.)			
Grey-headed Cuckoo	Cuculus poliocephalus.	Kankafotra (Bs., T., Ba., N.B.).	Taotaonkafa (N.S.), Bôtokôn-kôna (Antk.).
Madagascan Lark-beeled Cuckoo	Centropus TOTIOL.	Toloho; so also in almost all the dialects.	Abhimborona (H.Co.), Mitsôly (Ba.), Monjo (N.B.).
Reynaud's Coua	COUA REYNAUDI.	.....	Kôa (Btm.), Taitôhaka (Bs., Ba., T.), Randikalama (T.).
Crested Coua	COUA CRISTATA.	Randikalama.	Tivôra (N.S.), Tivôse (S.E.).

Verreaux's Coua	COUA VERREAUXI.	Taitso, Tetsio.	Tivôka or Tivôko (S.Co.), Marha (N.E.), Teso (S.E.), Kaitso, Ketsio (Bezainozano), Rôa (Bm.), Famâkistifotra, Famâkistakôra (T., Bm.), Eoka or Heokê (S.), Haliotsa (or Aliôtsa, S.) Aliôtsa (N.S.), Aliôtsa (S.Co.), Lêtsa, Aloka (S.).	Vintsirano (Bs., Ba, T.), Voro- mbôla (Bs., Tm.), Bentsy (N.S.), Litotra (Ba.), Vintsiaia in almost all dialects, Ravintsy (Tm.).	Takadara (Bs., Ba., Berao (N.S.).
Blue Coua	COUA CÆRULEA.				
Serres's Coua	COUA SERRIANA.				
Delalande's Coua	COUA DELALANDEI.				
Giant Coua	COUA GIGAS.				
Red-capped Coua	COUA RUFICERPS.				
Olive-capped Coua	COUA OLIVACEICERPS.				
Running Coua	COUA CURSOR.				
Cognerel's Coua	COUA COGNERELI.				
Crested Kingfisher	<i>Corythornis cristata</i> .	Vintsy (T., N.B., N.S.).			
Rose-cheeked Kingfisher	<i>Ispidina madagascariensis</i> .				
Family ALCEDINIDÆ. (KINGFISHERS.)					
Suborder PSITTACOSTRES. (WIDE-GAPING BIRDS.)					
Family UPUPIDÆ. (HOOPES.)					
Fringed Hoopoe	<i>Upupa marginata</i> .				

(TABLE II., continued.)

English Name.	Scientific Name.	Hova or General Name.	Provincial Malagasy Names.
Family MEROPIDÆ. (BEE-EATERS.)			
Madagascar Bee-eater.	<i>Merops superciliosus</i> .	Tsikirioka, nearly the same in many dialects.	Kiriokio (<i>N.S.</i>), Kirinkirio (<i>N.B.</i>), Sikirikiriko (<i>Antk.</i>).
Family CORACIIDÆ. (ROLLERS.)			
Kirombo	LEPTOSOMA DISCOLOR.	Vòrondrèò.	Kiròmbò (<i>S.</i>), Vòrontsio (<i>Btm.</i>).
Lesson's Ground-Roller	BRACHYPTERACIAS LEPTOSOMUS.	.....	.....
Scaly Ground-Roller	GEOBIASTES SQUAMIGERUS.	.....	.....
Crossley's Ground-Roller	ATELORNIS CROSSLEYI.	.....	Vòrontràndraka (<i>T.</i>).
Pitta-like Ground-Roller	ATELORNIS PITTOIDES (Laf.).	Sakóka (<i>Ba., T.</i>).	Avòka (<i>Bs.</i>), Rèniangàly (<i>N.B.</i>), Tsikòko (<i>Tm.</i>).
Broad-billed Roller	EURYSTOMUS GLAUCURUS.	Maoràra.	Haràkàraka (<i>Bs., T., Tm.</i>), Tsi-ràraka (<i>Bs., Ba., N.S.</i>), Fitivàratsa (<i>N.S.</i>), Vòronkàka.
Family CAPRIMULGIDÆ. (GOATSUCKERS.)			
Madagascar Goatsucker	<i>Caprimulgus</i> MADAGASCARIENSIS.	Fandikalàlana.	Tandrónisóny (<i>Bs.</i>), Tatàro (<i>Ba., T., N.S., N.B., Tm.</i>).
Gray's Goatsucker	<i>Caprimulgus enarratus</i> .	Matòriàndro (<i>Bs., Ba., T.</i>).	.....
Family CYPSELIDÆ. (SWIFTS.)			
Small Swift	<i>Cypselus parvus</i> .	Sidintsidina (<i>T.</i>).	Fitiliàndro (<i>N.S.</i>), Manàviàndro (<i>N.B.</i>), Vòronàndro (<i>Antk.</i>).
Madagascar Swiftlet	<i>Collocalia francica</i> .	Sidintsidina.	Fireringakély (<i>Bs.</i>), Vòromaola (<i>T.</i>).
Grandidier's Swift	<i>Chætura</i> GRANDIDIERI.	.....	Fitiliàndro (<i>N.S.</i>), Manàviàndro (<i>N.B.</i>), Vòronàndro (<i>Antk.</i>).

Bolòky, by which they are known both to the Hova and Bètsilèo. Some of these names seem imitations of their harsh cry, while the meaning of others is obscure, except in so far as they denote their comparative size, as *Koérabé* and *Koèrakèly* (the *large* Koera, the *small* Koera), &c.

About six years ago a paragraph went the round of the London papers telling of the recent "death of the oldest inhabitant of the Regent's Park Zoological Gardens." This was a specimen of the Black Parrot of Madagascar, which had been an inmate of the Gardens ever since July 1830, only two years after they were opened*. The bird had therefore been fifty-four years at Regent's Park; but how old he was when he arrived there is not known, except that he was described as "an adult bird." He appears to have died merely of old age.

The Madagascar Parrakeet (*Agapornis madagascariensis*) is a lively and brightly coloured little bird, and is found in considerable numbers, in the outskirts of the woods and near the cultivated districts, all over the island. They go in large flocks, often of as many as a hundred together, and sometimes do considerable damage to the rice-crops. They are, however, very excellent eating, and are often snared with a kind of bird-lime. They have greyish-white heads, but the body and wings are bright green, the male bird having the lighter tint spreading also over neck and breast. They are often taken alive to Mauritius and Réunion, and sometimes to Europe. The two sexes of this Parrakeet show great affection for each other, the pair sitting close together on their perch, from which habit they are often called Love-birds (*Agapornis*).

One of the native names of this Parrakeet, *Karaoka*, is probably descriptive of its cry; while another, *Masèsy*, means "degenerated," or "become small," apparently because it is considered a dwarf species of Parrot. This idea also appears in the latter portion of their Hova name *Sàrivàzo* or *Sàrivàza*, *Vàza* being a name for the two Parrots also, and probably is identical with the root *vàza*, "loud-voiced," "clamorous."

* See P. Z. S. 1884, p. 562.

2. The second Family of the first Suborder of the Picariæ, that of the Cuckoos, contains in Madagascar no less than fourteen species. Of these twelve belong to a genus peculiar to the island, and are among those numerous birds which give a distinct and special character to its avifauna. These are the Couas (from a native name *Kôa*, pronounced *kooa*), which are large handsomely coloured birds; they are remarkable for their short and obtusely pointed wings, loosely barbed feathers, long stiff tail, long thighs covered with large scales, and a fleshy caruncle round the eyes. These twelve species, says M. Grandidier, are strictly local in their habitat, most of them being confined to one district, out of which they are never found, and those which live in the damp forests on the eastern side of the island are very distinct from those which inhabit the dry and sandy plains on the western side. This is shown clearly in a map which M. Grandidier gives of the distribution of the various species. These differ from each other not only in colouring, but also in the proportions of the different parts of their bodies—wings, tail, beak, legs, &c. *C. delalandei* is perhaps the handsomest of all the genus; it is deep blue above, with whitish breast and red belly.

Five species of *Coua** inhabit the large forests, or at least the wooded regions, where they are found jumping from branch to branch in search of their food, which consists of insects, and especially of land-mollusks. In their stomachs there is usually found a fetid gelatinous mass of matter, which comes from the slugs and snails, of which these birds are very fond. These five species are true climbers. The other seven species, on the contrary, rarely perch, and live in the plains, where they run on the ground, as well as under the trees. The Couas feed chiefly on worms and insects, and, at certain seasons, on seeds. All the Couas, whether climbers or runners, pillage mercilessly other birds' nests at the time of incubation, and sometimes even attack small adult birds. They are unsociable, not one of them living in flocks, for they are almost always met singly, except at

* *C. reynaudi*, *C. cristata*, *C. pyrropygia*, *C. verreauxi*, and *C. cærulea*.

the breeding-season. There is no difference in colour between the sexes. Their flight is heavy and awkward; in fact the Couas do not make much use of their wings unless they are obliged.

The climbing Couas go from tree to tree, cocking their tails, and making the solitudes of the forest resound with their short sharp cry. Their habits remind one of the Magpie, but they do not, like that bird, seek the society of man, although they are not shy. They nest in high trees.

The running Couas pass the greater part of their life on the ground, flying very rarely. They are more distrustful than their cousins the climbers, and one never hardly hears their voice. Their tails, which are much more slender than those of the climbers, trail on the ground, and are therefore always much worn.

The Crested Coua (*Coua cristata*) is the only species of the genus which is found all over Madagascar, at least wherever there are woods. It has a variety of names, one of which, *Tivótse*, says M. Grandidier, means "crested" or "tufted," and refers to its appearance; while others, as *Ambosánga*, "That-which-climbs," and *Antisòma*, "That-which-loves-to-play," refer to its habits. Its Hova name, *Fandikalàlana*, means "Road-crosser."

The Blue Coua is very common on the east and north-west coast, and also in the upper forest-belt. Its cry is a harsh guttural sound like "Turruh," repeated twice or thrice. It is a large bird, and is very conspicuous as it perches on the trees. A wounded one was seen to use its beak like a Parrot in climbing trees. Its cry is also said to resemble the words *Marìha* and *Tèso*, which are two of its provincial names. The forest people say that when its cry is heard the day will be wet and drizzly.

Verreaux's Coua is very rare, being only found at the extreme southerly point of the island. Serres's Coua is also rare, and is only met with on parts of the north-east coast. So also is Delalande's Coua; this bird goes from rock to rock seeking the large land-shells which form its principal food. These mollusks it takes in its beak and breaks the

shell by striking them on a stone. From this habit comes its name of *Famàkisifotra*, "Snail-breaker," and *Famàki-akòra*, "Shell-breaker."

The two species of Cuckoo found in Madagascar are much more common than are most of the Couas, and are plentiful all over the forest-regions of the island.

The *Kànkàfotra*, the Grey-headed Cuckoo (*Cuculus poliocephalus*), comes up into the upper plateaux of the interior as the warm season approaches (as also do some of the Rollers and other birds), and its monotonous but not unpleasing cry of *kow-kow*, *kow-kow*, may be heard in all parts of the woods, or indeed wherever there are trees, all day long. The Malagasy make its arrival a signal for clearing their ground for planting the later crop of rice. In some of the native *Hain-tèny*, or Oratorical Adornments, the *Kànkàfotra* is said to *manóva ny taona*, i. e., "to change," or rather "to announce the change of the year." Its various names seem to be all more or less descriptive of its note, like the name of our English species of Cuckoo. "It keeps its note with only slight variations throughout the rainy season (unlike the English Cuckoo). It lays its eggs in the nest of the Madagascar Lark (*Alauda hova*) ; they are white, speckled with irregular spots" (Mr. Cory's notes). Mr. Baron also remarks: "I have twice found its egg in other birds' nests, and have in my possession one which I took from the nest of one of the Sun-birds (*Nectarinia souimanga*), along with three eggs of the latter." It is a solitary and shy bird, never seen but alone, except in the pairing-season ; it has a sober livery of grey and brown tints.

The remaining bird of this family, the *Tolòho*, or Lark-heeled Cuckoo (*Centropus toulou*), is of a dark slaty-black colour, with rufous wings and extremely long tail. The wings show warm red in colour as the bird flies from tree to tree. It also comes up into the higher regions of the island, and is very common in the coast forests and plains*. Its name of

* Mr. Cory tells me: "I have shot grey slaty-coloured specimens of the Tolòho Cuckoo on the coast, but have not seen such up here in the interior. I dare say there are two varieties, and am taking skins to England for

Tolòho is imitative of its mellow flute-like whistle, which consists of several notes running down the scale. M. Grandidier says it may be seen about the villages leaping, or rather gliding, from branch to branch in the clumps of bamboos or in the spiny bushes, cocking its tail and expanding its short wings. It seeks damp and marshy places by rivers, where it finds its food of insects, larvæ, and mollusks. But it also feeds on small birds and quadrupeds. Its flight is heavy, but it is an indefatigable climber, its thick plumage serving as armour against the spiny branches of the shrubs. The voice of the female bird is deeper and stronger than that of the male. Its nest is a ball, or rough and dome-shaped, with a lateral opening, hardly big enough for the bird to go in and out. The eggs, five or six in number, are small and like those of a Starling's, long and of a uniform white.

This Cuckoo is considered a sacred bird by one of the principal tribes of Mènabé (west coast). M. Grandidier says that having on one occasion shot one of these birds at Tsimànandrafòzana, he was obliged, in order not to grieve the family, to leave the body of the bird, which was immediately reverently buried. The reason of the extreme respect in which these Sàkalàva hold the Tolòho is as follows: "One of their ancestors, who was fearlessly swimming across the river Tsìjobònina, was caught on the way by a crocodile. It is well known that these fearful reptiles do not devour their prey on the shore, but carry it to their lurking-places under or close to the water, so that it may become half putrid before being eaten there. Our hero was carried, quite senseless, to a large hole in the bank of the stream, which served as the habitual retreat of the monster, and which the ebbing tide had left partly dry. It was from this fortunate chance that the victim's head was left just above the surface of the water. Suddenly he was roused from his torpor by the

identification. It is not at all uncommon in Imèrina. The cry of the two varieties is the same. There is a Bétsimisàraka saying that 'if you throw a Tolòho over the house, you will be able to roast it.' If you do not do this, they say, it all runs to grease, and you only get the bare bones."

repeated cry of a Tolòho. Now we know, from what has been already said of the habits of this Cuckoo, that it chooses damp places, and hops about from bush to bush on the river-banks; it was then very natural that the loud mellow notes of the Tolòho should reach the ears of a man who was lying only a slight depth underground. Starting out of his lethargy, it was not long before he comprehended that he was not buried very deeply, since the notes of the bird could be recognized; and so, without waiting for the return of the reptile, which was waiting patiently at the entrance of the cave, he used his hands and nails to such effect that in a little time he saw daylight. He was saved. In recognition of the service, all unconscious and involuntary as it was, which the bird had rendered to their ancestor, his children and grandchildren vowed that neither they nor their descendants would ever kill a Tolòho; and so that is why the Paris Museum has one specimen less of the *Centropus madagascariensis*."

In Malagasy folk-lore there is an amusing fable about this bird and the *Tàkatra*, or Brown Stork*, in which the former is described as being invited to a feast at the nest of the latter; but he disgracefully repays the hospitality of the *Tàkatra* by turning him out of house and home and taking possession of it himself. From this fable (which probably embodies some facts as to these birds), it would appear that this Cuckoo, like the *Kànkàfotra*, has also something of the habits of its European cousin in making use of other birds' nests. Perhaps this habit is also referred to in one of its provincial names of *Abìlimbòrona*, i. e., "Base (or Slavish) bird."

II. The WIDE-GAPING BIRDS.—The second Suborder of the Picariæ, that of the Fissirostres or Wide-gaping Birds, includes, according to Mr. R. B. Sharpe, twelve families, six of which are represented in Madagascar. These are the Kingfishers, Hoopoes, Bee-eaters, Rollers, Goatsuckers, and Swifts. For the other six, the Jacamars, Puff-birds, Horn-

* See 'Folk-lore and Folk-tales of Madagascar' (Antananarivo), pp. 113-117.

bills, Motmots, Trogons, and Humming-birds, we must go to other parts of the world.

1. The Kingfishers are represented by two species, the first of which (*Corythornis cristata*), of lovely purplish blue, with yellow and buff breast and belly, is very common wherever water is to be found. With short blunt tail and long beak, it may be seen perched on the *zozòro* or other aquatic plants, or darting over the streams and marshes, flying in a curious jerking manner, like a flash of purple light, pursuing the insects which form its food. In colouring this Kingfisher is not very unlike our English species. Mr. Cory notes here that "the Madagascar Kingfisher is much less attached to the water than is the English species. I have seen it sitting happily in a gum-tree in our garden, and have once seen one caught in a spider's web a long way from the water."

Its very general name of *Vìntsy* does not throw much light on the habits or peculiarities of this beautiful little Kingfisher. By some tribes it is also called *Vòrombòla*, "Money (or Silver)-bird;" and some native superstitions have become connected with it; thus we find it said that, "The *Vìntsy* and the black moth are dead people who have been changed into animals. The common people reverence them and say that they are their ancestors"*. And again, they say: "If you take the nest of a *Vìntsy* you become bald; if that of a *Tàkatra* (the Tufted Stork) you become a leper."

The other Madagascar species of this family, the Rose-cheeked Kingfisher, is a little bird in a livery of bright yellowish red, the throat and underparts of the body being white. Its tail and wings are almost comically short, and it is much less common than its purple cousin, being only found in certain parts of the island, and in the woods, as its name of *Vìntsiàla* ("forest" *Vìntsy*) denotes. By the Taimòro its name is personified by the prefix *Ra-*, *Ravìntsy*.

2. The single species of Hoopoe found in Madagascar (*Upupa marginata*) is, like others of the same genus found in the Old World, a handsome bird, both from its beautiful colouring and its prominent crest of feathers. But it does

* See 'Specimens of Malagasy Folk-lore' (Antananarivo), p. 292.

not appear to differ in any marked degree in habits from our European Hoopoe, nor is anything further known of it to require a longer notice here.

3. The Madagascar Bee-eater (*Merops superciliosus*) is one of the most beautiful birds found in the island, both in elegance of form and from its bright colouring. It has a very long curved beak and an extremely long tail, with two feathers extending beyond the others; its colours are various shades of green. Its name of *Tsikirioka*, found with slight variations in several dialects, is no doubt imitative of its cry of *kiriò, kiriò*. M. Pollen mentions finding a number of the nests of this bird, excavated about a foot deep in a sand-bank, on the margin of the river Ambasòana.

4. Coming to the next family of the Suborder, that of the Rollers, we meet with some of the most interesting and curious of all the birds found in Madagascar. These belong to the kind called Ground-Rollers, which live entirely on the ground, and only come out at dusk. Their flight is said by M. Grandidier to be very weak, so that the birds are never found above the lowest branches. They are rather local in their habitat, but where they do occur seem to be not uncommon.

The Vòrondrèò, or Kiròmbò Roller (*Leptosoma discolor*), has at first sight much the appearance of a Cuckoo, of which family it was for many years considered to be a member. The head is extremely large in this bird, and the region of the nostril densely plumed. M. Pollen says: "The natives of the north-west of Madagascar give this bird the name of *Kiròmbò*. It has the curious habit of hovering in the air and uttering a very loud note, striking its wings against the body as it calls. This cry, resembling the syllables *tu-hou, tu-hou, tu-hou*, goes on increasing in strength. Nowhere have we seen this bird in greater numbers than in the forests of the south-west of Mayotta. The racket they make throughout the day is truly wearisome. Although very active as regards voice, these birds are lazy and stupid. Immediately they perch on the branch of a tree, they remain, so to say, immovable and in a perpendicular position, so that it is very easy to see and to shoot them. When seen in this position they look just

like birds impaled on the branches. I suppose they must live in polyandry, because one always sees three times as many males as females. I have often met with three males in company with one female, and they have all allowed themselves to be killed one after another. In fact, when one is killed the others do not fly away, but content themselves with merely moving from one branch to another. These birds live principally on grasshoppers, but they also devour chameleons and lizards. When they cry they puff out the throat, so that this portion of the body has the appearance of a pendent bag. The Vòrondrèò plays a great part in the chants and religious recitations of the Malagasy." This Roller is considered by the people as bringing ill luck; and it is said that if one of them settles on a house the owners will leave it.

Certain native names for these birds show, as in other cases, some native notions as to their habits and peculiarities. Thus, the Vòrondrèò is also called *Vòrontsìò*, probably the "Whistling-bird;" Crossley's Ground-Roller is called *Vòrontràndraka*, "Hedgehog-bird;" the Pitta-like Roller is called *Sakóka* and *Tsikòko*, probably from *sakóko*, "dejection," "melancholy;" and also *Avòka*, perhaps from *vókaka*, "lifted from the ground;" and also *Rèniangàly*, which literally means "Mother-(or source)-of-capriciousness." The Broad-billed Roller (*Eurystomus glaucurus*) is known by several names which are variations of the word *Hàrà-kàraka*, probably from the root *kàrakàra*, meaning "minute investigation," and so referring to the habits of the bird when searching for its food. It is also called *Vòronkàka*, which would appear to mean "Enemy," although this name may be only imitative of its cry.

As remarked by M. Pollen (in words just quoted), the Vòrondrèò is frequently referred to in the folk-lore and folk-tales of the Malagasy. In the 'Antanànarivo Annual,' no. 3, p. 110 (reprint, p. 369) a translation is given of one of the series of tales referring to a strange monster called Itrímobè, and in this the Vòrondrèò appears and delivers the heroine from danger, as follows:—

"After that a Rèò bird came, repeating its cry '*Rèò, rèò, rèò,*' which when Ifàra saw, she called to it thus:—

‘O yonder Rèo, O yonder Rèo!
Take me to father’s well,
And I will smooth thy tail.’

“‘Rèo, rèo, rèo,’ said the bird, ‘come, let me carry you, my lass, for I feel for the sorrowful.’ So the bird took her away and placed her on a tree just above the well of her father and mother”*.

The Vòrondrèo also figures to advantage in the following piece, entitled “Don’t send a Fool on an Errand” :—

“The Weaver Finch (*Tsikirity*) longs for, and the Sun-bird (*Soy*) is sorrowful,—but don’t send the Warbler (*Fitatra*), for when he goes into the plantation he will be off. The Weaver Finch longs for, and the Sun-bird is sorrowful,—but don’t send the Cardinal-bird (*Fòdy*), for when he meets a friend he will forget all about it. The Weaver-bird longs for, and the Sun-bird is sorrowful,—so send the Vòrondrèo, for he will both chirp and deliver his message”†.

5. The fifth family of the Wide-gaping Birds found in Madagascar, that of the Goatsuckers—from which, indeed, the Suborder takes its name—is represented here by two species. Of the first of these (*Caprimulgus madagascariensis*), called *Fandikalàlana*, i. e., “Road-crosser,” M. Pollen says that it is pretty common on the north-west coast. After sunset these birds leave the recesses of the forest, where they rest during the day in the grass, and begin a rapid flight along the border of the woods, as well as over the surface of the water. They have the habit of sometimes rising, from a slight elevation above the ground, straight into the air; then they let themselves suddenly fall, to resume their ordinary mode of flight. They feed exclusively on nocturnal insects, chiefly moths and beetles. The note of these birds is monotonous, resembling the syllables *tar-tar-ta-ro*, from which comes the names of *Tatàro* and *Tartàrolèpeka*, given to them by the northern Sàkalàva.

The other species of Goatsucker (*C. enarratus*) has appa-

* See also “The Oratory, Songs, Legends, and Folk-tales of the Malagasy,” by the present writer, in ‘The Folk-lore Journal,’ vol. i. (1863), p. 236.

† See ‘Specimens of Malagasy Folk-lore,’ p. 30.

rently the same habit of reposing during the day as its relative, for it seems only known by the name of *Matòriàndro*, i. e., "Day-sleeper," in three or four dialects. Both birds are beautifully mottled with various shades of brown, no doubt a protective resemblance, corresponding with the colour of their surroundings.

6. The last of the six families of this Suborder found in Madagascar, viz. the Swifts, comprises three species of these attractive and useful birds. These Swifts do not differ much from those of Europe as regards their appearance. M. Pollen says that they catch daily thousands of mosquitos, and that he has observed them in considerable numbers perched on the large-foliaged trees*. Their flight is extremely rapid, like that of an arrow from a bow; and from this comes their name of *Sidintsìdina*, "The Flier," *par excellence*. (Or possibly the verb comes from the bird's name.) The Small Swift (*Cypselus parvus*) has extremely long pointed wings and a forked tail; but Grandidier's Swift has a square tail. While the Goatsuckers are known to the natives as nocturnal birds, the Swifts, on the contrary, are recognized as diurnal in their habits, and so are called *Fitìliàndro*, "Day-watchman;" *Vòronàndro*, "Day-bird;" and *Manaviàndro*, "Day-Bat."

The third Swift (*Collocalia francica*) is nearly allied to the Edible-nest-building Swiftlet of the East Indies. Its nest, however, is not made chiefly of the glutinous secretion from the bird's saliva, but largely of a species of grey lichen (*Usnea*) which grows abundantly on the trees, cemented together with the gelatine from the bird's mouth. In Réunion the nests are bought by the Chinese traders, but they are much inferior to those of the East-Indian species. These

* Mr. Cory remarks: "Swifts never settle on trees in England, hence a great difference in habits. I have taken notes of the migration of the Swifts, and give these herewith:

<i>"Westwards.</i>	<i>Eastwards.</i>
1885, Jan. 12, large flights.	Many going in this direc-
1886, Feb. 15, do.	tion, but only in small
1888, Feb. 23, do.	detached flights.
1889, Jan. 30, do.	1887, Sept. and Oct.
	1889, August."

Swiftlets build their nests crowded together on the face of steep and almost inaccessible cliffs, so that it is very difficult and dangerous to obtain them. M. Pollen observes that in the nests both eggs and young birds in all stages of development may be found. One of this bird's names is *Vòromaola*, "Frolicsome-bird" (or possibly "Mad-bird"), probably from its wild dashing flight as it darts after its insect prey.

[To be continued.]

XXII.—*Some Comparative Osteological Notes on the North-American Kites.* By R. W. SHUFELDT, C.M.Z.S.

VERY recently the writer has been engaged in making comparisons of the characters presented in the skeletons of nearly all the genera of the Accipitres found north of the northern boundary of Mexico. By the Accipitres I mean the Cathartidæ, the Falconidæ, and *Pandion*, but not the Striges. For the most of my material I am indebted to the Department of Comparative Osteology of the U.S. National Museum, though my own collections are not inextensive, affording as they do certain specimens not in the possession of the above-named institution.

The true Raptores, including *Pandion*, offer us many osteological characters of good classificatory value; but when we come to consider the skeletons of the Kites of North America many perplexing points confront us.

Of these latter birds I have carefully examined and compared the skeletons of *Elanoides forficatus*, *Elanus leucurus*, and *Ictinia mississippiensis*, but up to the present time no opportunity has been afforded me for studying the osteology of the Everglade Kite (*Rostrhamus sociabilis*). Not only have the skeletons of these species been intercompared, but comparisons have also been made with the skeletons of many raptorial birds of other countries, as well as with the osteological characters of *Circus* and *Accipiter* (several N.-American species), of many species of *Buteo* and *Falco*, of *Urubitinga anthracina* and *Asturina plagiata*, of American species of